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AUTHOR d'Plesse, Peter
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ABSTRACT

Remoteness has generally been defined in terms of distance from major urban centers, but research suggests that the correlation between distance and remoteness is not necessarily linear. A more reliable determinant of degree of remoteness may involve the concept of resistance, namely the cost, time, and effort related to travel between centers, reinforced by factors of structural and psychological remoteness. A definition of remoteness in terms of a functional relationship between these parameters logically leads to the view that if underlying societal characteristics were to change, so also would the nature of the functional relationship and the associated definition of remoteness. Such a major societal change is the transition from an industrial to a postindustrial information-based society that is presently occurring. The effect of remoteness in an information society may be the creation of distinct classes of people, with maximum power going to those with the skills and money to access information and for whom this information has relevance. Remoteness in this scenario would mean a new form of disadvantage, and some populations would be doubly disadvantaged due to remoteness in both geographic and information space. Two sets of indicators, ranging from simple to analytical, are proposed for measuring remoteness in geographic and information space. (SV)

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REDEFINING REMOTENESS IN THE POST INDUSTRIAL SOCIETY

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Peter d'Plesse
Roseneath Primary School
Tasmania

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Introduction

Remoteness is one of a number of concepts that have been used to describe the observed differences between various geographic regions and is sometimes used interchangeably with descriptive terms such as rurality and isolation. This discussion will suggest a definition for the concept of remoteness and explore how it may change within the context of the emerging information based society. Remoteness has generally been defined in terms of distance from major urban centres, however close observation of those regions that are commonly regarded as isolated or remote indicates that the correlation between distance and the evidence of remoteness in populations is not necessarily linear.

Isolation in Tasmania

d'Plesse (1990) argued that a more reliable determinant of the degree of remoteness was the concept of resistance, namely the cost, time and effort of travel between centres and that this was reinforced by the factors of structural and psychological remoteness. Such an argument would allow the concept of remoteness to be defined in terms of a functional relationship between these parameters and could logically lead to the view that if the underlying characteristics of society were to change, then the nature of this functional relationship and therefore the associated definition of remoteness would also be subject to change.

A major underlying change in the characteristics of society that would fit the above scenario is the transition from an industrial to a post industrial, information based society which is presently occuring. There is little doubt that this process is stimulating a significant change in a wide range of traditional practices, beliefs and concepts, including that of remoteness.

RC 019453

Remoteness As An Evolving Concept

The argument regarding the change in the nature of remoteness caused by the transition from an industrial to an information based society is somewhat complex, but may be summarized briefly as follows. In industrial society the basic societal principle was the satisfaction of material needs. Remoteness therefore related to the satisfaction of these material needs, with urbanization as a dominant social force for this need satisfaction. The degree of remoteness could therefore be defined using three parameters:

Resistance (R_u) the cost, time and effort necessary in gaining access to urban centres in order to satisfy socially accepted material needs.

Structural Isolation (I_s) the attitudes and internal arrangements within an organization that result in inappropriate or inadequate resources and services being allocated to those whom the organization is designed to serve.

Psychological Isolation (I_p) the attitude or state of mind in individuals (resulting from a complex combination of factors), which becomes manifest in a group and produces a spirit of inertia and insularity that prevents individuals from taking those steps within their power to minimize the negative effects of their location or gain access to particular services.

Therefore, remoteness in industrial society can be represented functionally as follows:

Degree of remoteness - $f\{ R_u \times (I_s + I_p) \}$

In the information society however, the evolving basic societal principle would appear to be the satisfaction of goal achievement needs, so

remoteness would relate to the satisfaction of these needs, with individual empowerment as the dominant social force. Remoteness under these circumstances could therefore be defined using the following parameter mix:

Resistance (R_i) - a constant relating to resistance (in terms of cost, skills and relevance) against access to information.

Empowerment - defined four factors which need not be discussed here, but comprising:

Pro-active interaction I_p

Purpose **P**

Vision **V**

Pro-active feedback F_p

where each is regarded as a necessary but not individually sufficient condition for achieving goal achievement needs.

Therefore remoteness in an information society could be defined functionally as follows:

$$\textbf{Degree of remoteness} = f\left(\frac{Ri}{Ip + P + V + Fp}\right)$$

The effect of remoteness in an information society may therefore be to produce distinct classes of people, with maximum power going to those who have the skills and money to access information and for whom this information has direct relevance. This scenario has important implications for the concept of remoteness within the context of an information society because it portrays the potential for groups in society to become remote in terms that are unrelated to distance, (geographical space), but rather in terms of information space.

Information Space Supplements Geographic Space

Information space can be defined as the spatial reach of an information network and has developed in four main evolutionary stages that match the evolution of computer based technology, namely:

1. local information space;
2. regional information space;
3. national information space; and
4. global information space.

These evolutionary stages reflect the change in computer technology from the large, immobile valve based computers used in the areas of large scale science, defence and space projects through to the small but powerful personal micro-computer capable of large scale information transfer on a global basis.

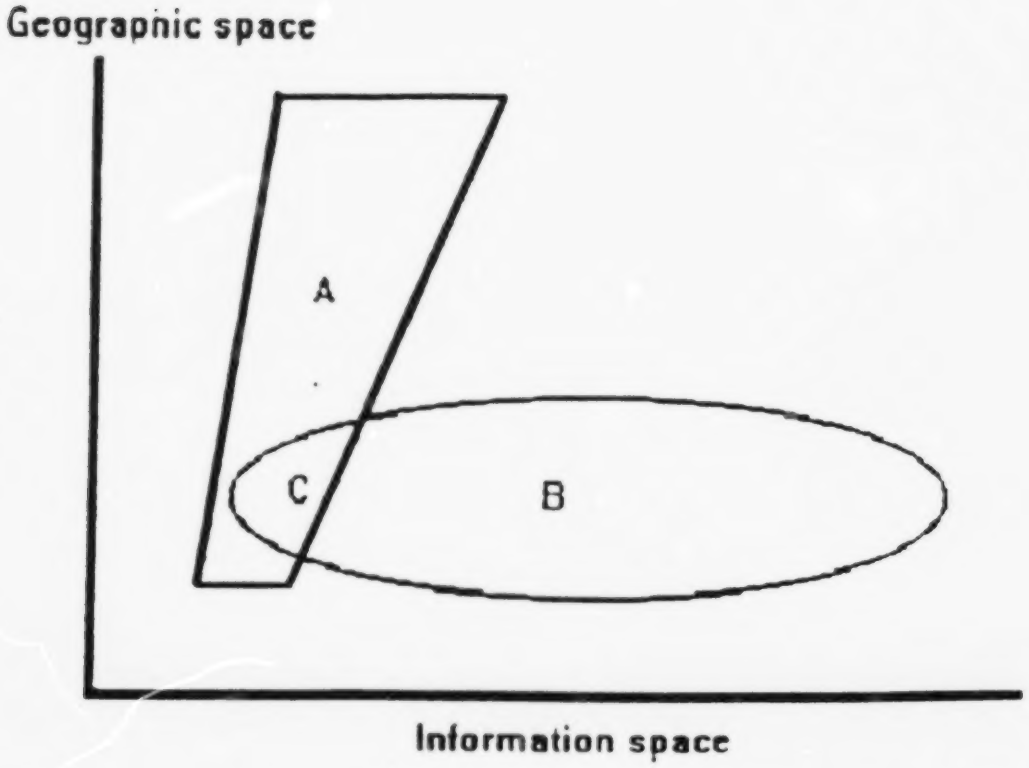
Evidence for the existence of information space can be found by tracing the lines and patterns of information transfer both from and to the various organizations and agencies operating in society. In fact such an analysis would reveal that the various classes of information space co-exist in a multi-layered fashion similar to an inverted wedding cake, with random slices missing from the various layers. These inverted wedding cakes of information space would be centred on the large urban capital cities which are the centres of information generation and transfer and the missing slices would represent particular groups or areas within society that do not have access to the various categories of information space because of the effects of resistance (R_i). The people constituting these groups will not have the money, skills or understanding to acquire and appreciate access to the information networks that could fulfil their needs and are therefore disadvantaged in terms not related to distance (geographic space).

Remoteness As A Two Dimensional Concept

From the above discussion it should now be possible to regard remoteness as a concept open to evolutionary change just like any other concept facing change arising from the societal transition presently underway. Given that both forms of resistance identified previously will coexist within society for the foreseeable future, it should be possible to accept that remoteness could be identified in terms of both geographic space (resistance against geographic access in terms of cost, time and effort) and information space (resistance in terms of the cost, skills and relevance of information access). The resulting situation is represented schematically in Figure 1.

FIGURE 1

REMOTENESS EXPRESSED IN TERMS OF GEOGRAPHIC AND INFORMATION SPACE



This diagram shows how resistance against access to urban centres (i.e. distance) can result in regions being considered remote or isolated, represented by the area A, while resistance against access to information can produce a similar set of remote regions represented by the area B. As both forms of resistance will obviously coexist in western society for the foreseeable future, some regions will suffer from a combination of both forms of resistance, represented by the area C. Each of these areas represents a target group that must be addressed by any program intended to alleviate the negative efforts of remoteness, namely:

Group A - Those populations whose remoteness is determined by the level of access to urban centres.

Group B - Those populations whose remoteness is determined by the level of access to urban based information networks.

Group C - Those populations whose remoteness is determined by the level of access to both urban centres and computer based information networks.

It is apparent that these populations are not necessarily confined to the further corners of rural Australia and may even occur within large urban areas, because the above discussion leads to a definition of remoteness as follows:

Remoteness occurs within geographic and information space when the resistance against the satisfaction of material or goal achievement needs reaches a level at which populations fall behind the general rate of change within mainstream society in terms of ideas, values, attitudes, skills or material fashion.

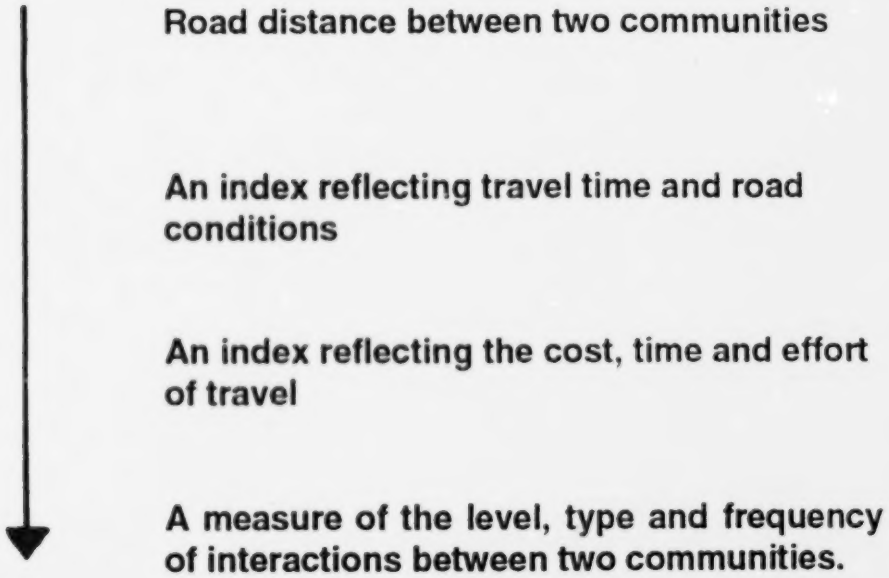
Measuring Remoteness

Geographic Space

In light of the above definition it is apparent that in order to identify areas that can be considered to be remote, appropriate indicators must be developed to measure levels of resistance in both geographic and

information space. A range of indicators for the level of resistance in geographic space can be detailed, forming a sequence ranging from the comparatively simple to details analytical measures. This is shown in Figure 2.

FIGURE 2
GEOGRAPHIC SPACE


Increasing purity of measure
Road distance between two communities
An index reflecting travel time and road conditions
An index reflecting the cost, time and effort of travel
A measure of the level, type and frequency of interactions between two communities.

Such a sequence would reflect the evolutionary development of remoteness in terms of the level of understanding and its purity as a concept.

Information Space

Information space would require a different set of indicators in order to measure resistance in terms of the cost, skills and relevance of information access. Again a sequence of indicators could be developed reflecting the level of analysis being applied to the investigation. An example of such a sequence is detailed in Figure 3.

FIGURE 3
INFORMATION SPACE

Redefining Remoteness

Increasing purity of measure

Number of computers per head of population

Index reflecting the number of computers per head and the use to which they are put

Index reflecting the number of modems per head and the nature of the electronic link established

An index reflecting a quantitative assessment of the number of information exchanges between communities, the nature of the information exchange and the level of network operation.

In this last indicator the network level could perhaps be classified according to whether the information network is local, regional, national or global in nature while the nature of the information exchange could be weighted according to a classification like the one below:

1. Information delivery - electronic mail;

2. Financial management - electronic funds transfer;

3. Service orientation - reactive to defined consumer needs such as travel bookings; and

4. Creative orientation - proactive development of designs, concepts and written material.

The indicators for geographical and information space detailed above are not meant to be exhaustive or refined to their highest level, but are intended to show that a range of indicators could be developed that would stimulate the evolution of an increasingly pure concept of remoteness.

Conclusion

This discussion has been concerned with arguing a case for the redefinition of remoteness on the grounds that the present transition from an industrial to a post industrial society has created the conditions for the emergence of a new form of disadvantage based on access to information. In industrial society remoteness existed in terms of geographical space and as a concept this form of remoteness can be defined in increasingly pure form by refining the nature of the indicators used in its identification.

Information space is a creation of the post industrial society and remoteness within this context takes on another form whose identification would require the development of a new set of indicators. As these indicators are refined a clearer vision of remoteness under these new circumstances will emerge. Given the nature of our society it can be anticipated that both concepts of remoteness will co-exist to create what is in effect a two dimensional entity, the effects of which will constitute an interesting challenge for leadership and management into the next century.

References

d'Plesse, P. (1990) *Isolation in Tasmania.* Country Areas Program, Tasmania Department of Education and the Arts, Hobart.